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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,085	04/16/2004	Takahiro Arakida	09792909-5868	9249

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EXAMINER

GOLUB, MARCIA A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/826,085

Applicant(s)

ARAKIDA, TAKAHIRO

Examiner

Marcia A. Golub

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/23/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 5-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION*****Response to Arguments***

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Objections***

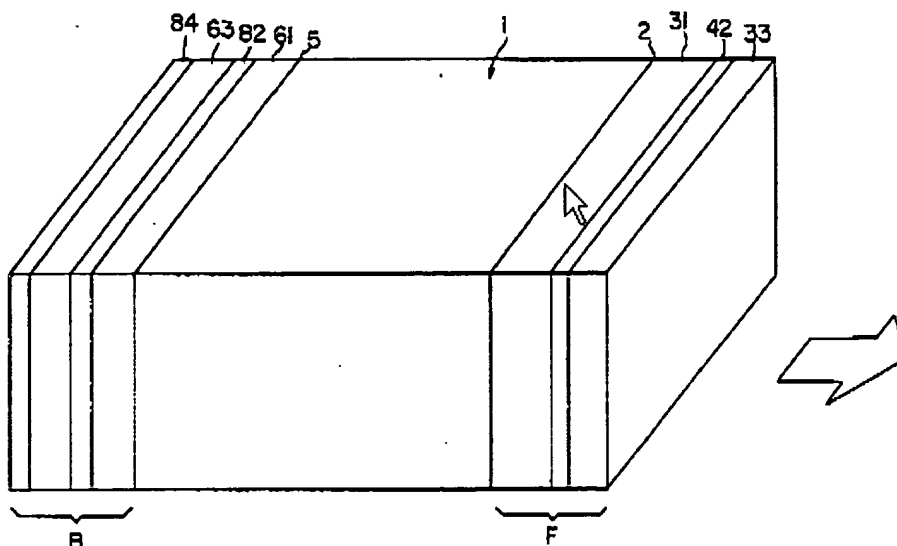
Claim 1 is objected to because of the following informalities: in line 10 the word "with" should be replaced with "which". The limitation in line 6 "the common low reflection film being formed to have the same thickness" is vague. As best interpreted by examiner it states that the thickness is the same on all the front faces of the lasers. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (6,628,689) herein after '689, and further in view of Miyauchi et al. (4,951,291) hereinafter '291.



Regarding **claim 1**, Figs 1 and 6 of '689 disclose "a multiple wavelength semiconductor laser monolithically having a plurality of edge emitting type semiconductor laser devices [1,2] having different wavelengths [650, 780 nm], the common low reflection film [18] being formed to have a same film thickness is provided on light emitting facets of said plurality of edge emitting type semiconductor laser devices." '689 discloses a multilayer dielectric film [30] on the back face of the laser, but does not disclose a multilayer dielectric film on the front of the laser.

However, Fig 1 of '291 discloses a multilayer dielectric film deposited on the front face of the laser:

"wherein: a common low reflection multiple layer film [F] that is a three-layer dielectric film comprised of a first dielectric film [31], a second dielectric film [42], and a third dielectric film [33] that are successively formed outwardly,

said common low reflection multiple layer film [F] is located at the front end face [2] of said plurality of edge emitting semiconductor laser devices from which laser light is emitted and provides a reflectivity of 15% or less [5%] for any of the plurality of edge emitting semiconductor laser devices; (3/20-22 of '291)

and a refractive index [ $n_2=3.9$ ] of said second dielectric film is larger than a refractive index [ $n_1=1.8$ ] of said first dielectric film and a refractive index [ $n_3=1.8$ ] of said third dielectric film, (3/2-8 of '291)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of '291 into the device of '689 by making the dielectric film on the front face of the laser to be composed of three layers such that  $n_2 > n_1$ ,  $n_2 > n_3$ , and  $R < 15\%$  for at least the purpose of extending the life span of the laser. (4/3-10 of '291)

Regarding **claims 2-4**, '689 and '291 disclose a semiconductor laser array as disclosed above:

2. "wherein each of said first dielectric film to said third dielectric film is one of an  $\text{Al}_2\text{O}_3$  film, a  $\text{SiN}_2$  film, and a  $\text{SiO}_2$  film;" (7/38-67 of '689 and 3/2-8 of '291)

3, 4. "wherein an oscillation wavelength of said plurality of edge emitting type semiconductor laser devices is any one of a 650 nm band and a 780 nm band." (Fig 1)

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### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

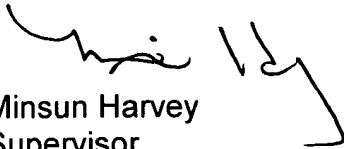
### ***Contact Info***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcia A. Golub whose telephone number is 571-272-8602. The examiner can normally be reached on M-F 9-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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